

**\*89977\***

September-13-12 8:58:20 AM

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Start Date:** 9/12/12      **Start Qty:** 4.00      **\*4\***

**Cust Item ID:**

**Required Date:** 10/05/12      **Req'd Qty:** 4.00      **\* / \***

**Customer:**

**Reference:**

Run Start \*NR1\*

Approvals: \_\_\_\_\_ Process Plan: M13 Date: 12-09-13 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

[illegible]


NCR: ☒ Yes ☐ No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: <u>89977</u> Part No. <u>D3183-044</u> NCR No. _____	<b>DISPOSITION</b> Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b> <table style="width:100%; font-size: small;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input checked="" type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input checked="" type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input checked="" type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	12-10-10	110	1	1 part scrap, changed tool length but forgot to remeasure tool and plunged in part R.C.	JL 12/10/15	scrap and destroy replace Qty 1 Batch M122576	SL 12-10-10  JL 12/10/15	OK 12/10/15	 12/10/15
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

## FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions  <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input checked="" type="checkbox"/> Other <u>Operator error / lack of attention</u>
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# Work Order ID 89977

**\*89977\***

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September-13-12 8:58:20 AM

Item ID: D3183-044

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Bracket Assembly

Stop **\*NS2\***

Start Date: 9/12/12 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 10/05/12 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
<b>*130*</b>									
QC	Memo	0.00							
Quality Control									
140		0.00							
<b>*140*</b>	Small Fab								
Small Fab	Memo	0.00							
Small Fab	Assemble D3183-043 as per Dwg D3183.								
150	QC5- Inspect part completeness to step on W/O	0.00							
<b>*150*</b>									
QC	Memo	0.00							
Quality Control									

Pro

12/10/19

SmB  
12-10-19

NCR: ☒ Yes ☐ No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: SWR Date: 12/10/11QA Closed: CK Date: 11

Work Order: <u>889977</u>				<b>DISPOSITION</b>		<b>AGAINST DEPARTMENT/PROCESS</b>							
Part No. <u>D3183-044</u>				Rework <input type="checkbox"/>		Skid-tube <input type="checkbox"/>		Crosstube <input type="checkbox"/>		Water Jet <input type="checkbox"/>		Engineering <input type="checkbox"/>	
NCR No. <u>12-1955</u>				Scrap <input checked="" type="checkbox"/>		Machining <input checked="" type="checkbox"/>		Small Fab <input type="checkbox"/>		Prod. Eng. Coord. <input type="checkbox"/>		Quality <input type="checkbox"/>	
				Use-as-is <input type="checkbox"/>		Thermoforming <input type="checkbox"/>		Finishing <input type="checkbox"/>		Rec/Store/Packaging <input type="checkbox"/>		Other <input type="checkbox"/>	
				Work Order Update <input type="checkbox"/>		Large Fab <input type="checkbox"/>		Composite <input type="checkbox"/>		Supplier <input type="checkbox"/>			
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>		<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>			
Doc/Data <input checked="" type="checkbox"/>	<u>12/10/11</u>	<u>110</u>	<u>2</u>	<u>1 Part scrap, Piece lifted during machining causing depth to be too deep.</u>		<u>SW</u> <u>12/10/11</u>	<u>Scrap and destroy</u> <u>replace Qty 2</u> <u>Batch M113568</u> <u>M122576</u> <u>360.52</u> <u>x 2</u> <u>2pc.</u>	<u>SW</u> <u>12/10/11</u>	<u>OK</u> <u>12/10/15</u>	<u>DAS</u> <u>16</u> <u>8-5</u> <u>12/10/15</u>			
Equip/Tooling <input checked="" type="checkbox"/>													
Operator <input type="checkbox"/>													
Material <input checked="" type="checkbox"/>													
Setup <input type="checkbox"/>													
Other <input type="checkbox"/>													
Process <input type="checkbox"/>													
Supplier <input type="checkbox"/>													
Training <input type="checkbox"/>													
Unapproved <input type="checkbox"/>													
<b>FAULT CATEGORY</b>													
<b>Landing Gear</b>				<b>General</b>									
<input type="checkbox"/> Bending				<input type="checkbox"/> Bend				<input type="checkbox"/> Grain					
<input type="checkbox"/> Centre Not Concentric to O/S				<input type="checkbox"/> BOM/Route				<input type="checkbox"/> Hardware					
<input type="checkbox"/> Cracks				<input type="checkbox"/> Broken/Damaged				<input type="checkbox"/> Inspection Incomplete					
<input type="checkbox"/> Crushed/Crimped.				<input type="checkbox"/> Burrs				<input type="checkbox"/> Instructions Incomplete/Unclear					
<input type="checkbox"/> Cuffs				<input type="checkbox"/> Contamination				<input type="checkbox"/> Maintenance					
<input type="checkbox"/> Heat Treat				<input type="checkbox"/> Countersink				<input type="checkbox"/> Misabeled					
<input type="checkbox"/> Inspection Strip in Tube				<input type="checkbox"/> Cut Too Short				<input type="checkbox"/> Misread					
<input type="checkbox"/> Ripples in Bend				<input type="checkbox"/> Drill Holes				<input type="checkbox"/> Offset					
<input type="checkbox"/> Torque Waves in Extrusion				<input type="checkbox"/> Drawing				<input type="checkbox"/> Out of Calibration					
<input type="checkbox"/> Turning Sequence				<input type="checkbox"/> Finish				<input type="checkbox"/> Out of Sequence					
<input type="checkbox"/> Wave/Twist in Tube				<input type="checkbox"/> Folio				<input type="checkbox"/> Outside Dimensions					
								<input type="checkbox"/> Ovalized					
								<input type="checkbox"/> Over/Under tolerance					
								<input type="checkbox"/> Part Incorrect					
								<input type="checkbox"/> Part Lost/Missing					
								<input checked="" type="checkbox"/> Part Moved					
								<input type="checkbox"/> Positioned Wrong					
								<input type="checkbox"/> Power Loss/Surge					
								<input checked="" type="checkbox"/> Other					
<u>Material has 1/16 RAD from manufacture</u>													

# Work Order ID 89977

September-13-12 8:58:20 AM

**\*89977\***

Page 3

Item ID: D3183-044 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Bracket Assembly  
 Start Date: 9/12/12 Start Qty: 4.00 **\*4\*** Cust Item ID:  
 Required Date: 10/05/12 Req'd Qty: 4.00 **\*4\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>ST 235 B</u>	0.00							
<b>*160*</b>									
Packaging	Memo	0.00				<u>4</u>			<u>12/10/19 JG</u>
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
<b>*170*</b>									
QC	Memo	0.00							<u>12/10/22 JG</u>
Quality Control									

12-10-19

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

# Picklist Print

September-13-12 8:58:20 AM

Page 1

Work Order ID: 89977  
Parent Item: D3183-044  
Parent Item Name: Bracket Assembly

Start Date: 9/12/12 Required Date: 10/05/12  
Start Qty: 4.00 Required Qty: 4.00

Comments: IPP Rev:Pick:A04.02.18New issueKJ/DS  
IPP Rev:B Changed Mat Size 08-06-26 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3121-21 Bolt		Manufactured	No			140	Each	18.0000	2	8		9/12/12	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST235		18							
				66969		1							
				79732		4							
				85660		1							
				89495		12							
D3183-045 Bearing Assembly		Manufactured	No			100	Each	10.0000	2	8		9/12/12	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST235B		5							
				88587		5							
				ST236		5							
				79697		4							
				88012		1							
M174B1.500X02.250 17-4 SS Bar 1.50 X2.250		Purchased	No			140	f	19.4482	0.4583	1.9296844		10-10-05	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT031		19.4482							
				108309		0.58							
				113568		11.8333							
				115806		2.1146							
				122576		4.9203							

12/10/14

113568  
Not Pulled

1 1/2 x 2 1/2

0.464

scrap part  
replacement

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

**FAULT CATEGORY**

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	89977
<b>Description:</b> Bracket		<b>Part Number:</b>	D3183-4
<b>Inspection Dwg:</b> D3183	<b>Rev:</b> C1	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	.188	✓		Rad	Gaugl
R0.063	+/-0.010	.0625	✓			
0.182	+/-0.010	.1833	✓		SLO8	<del>mic</del> Vern
0.070	+/-0.010	.0684	✓			
0.100	+/-0.010	.102	✓			
Ø0.201 x 0.100	+/-0.010	.203 X .101	✓			
0.182	+/-0.010	.182	✓		SLO8	<del>mic</del> Vern
5.32	+/-0.030	5.323	✓		Height	Gaugl
5.036	+/-0.010	5.032	✓			
2.120	+/-0.010	2.120	✓			
1.290	+/-0.010	1.289	✓			
0.365	+/-0.010	.364	✓			
0.218	+/-0.010	.212	✓		SLO8	Vern
1.030	+/-0.010	1.030	✓			
1.90	+/-0.030	1.888	✓			
1.012	+/-0.010	1.0105	✓			
Ø0.201 x 0.100	+/-0.010	.203 X .101	✓			
0.786	+/-0.010	.780	✓		Height	Gaugl
Ø0.392	+0.002/-0.000	.3925	✓		SLO2	MIC
R0.19	+/-0.030	.188	✓		Rad	gauge
3.954	+/-0.010	3.951	✓		Height	gauge
0.162	+/-0.010	.158	✓		SLO8	Vern
R0.19	+/-0.030	.188	✓		Rad	Gaugl
R0.25	+/-0.030	.250	✓			
4.26	+/-0.030	4.260	✓		Height	gauge
2.800	+/-0.030	2.800	✓		SLO8	Vern
Calculated dimension						
0.162	+/-0.010	.163	✓			
0.615	+/-0.010	.618	✓			
0.435	+/-0.010	.435	✓			
0.200	+/-0.010	.203	✓			
0.381	+/-0.010	.385	✓			
0.032	+/-0.010	.031	✓			

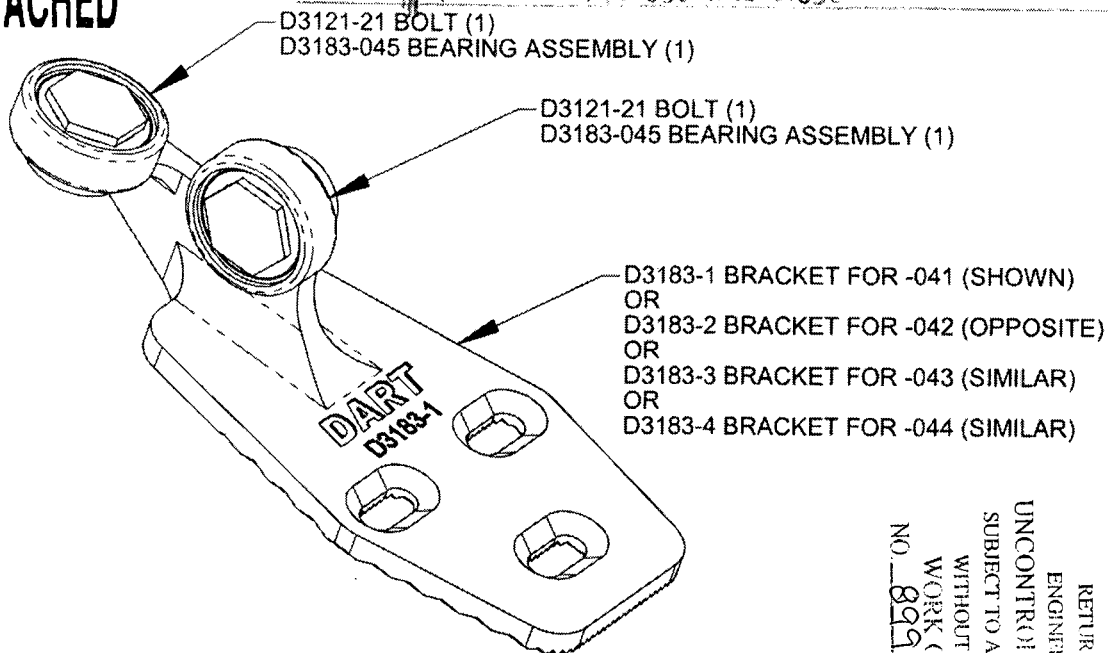
<b>Measured by:</b>	<i>[Signature]</i>	<b>Audited by:</b>	14	<b>Preliminary Approval:</b>	N/A
<b>Date:</b>	12/10/11	<b>Date:</b>	12/10/11	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue P/O D3183-044	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	
C	04.06.15	Dimension 2.800 was 2.080; removed 1.155, 0.36 dimensions	KJ/JLM	
D	06.03.09	Dwg Rev update	KJ/JLM	
E	08.01.16	Dimensions revised	KJ/EC/DD	
F	10.09.23	Dimensions revised	KJ	<i>[Signature]</i>



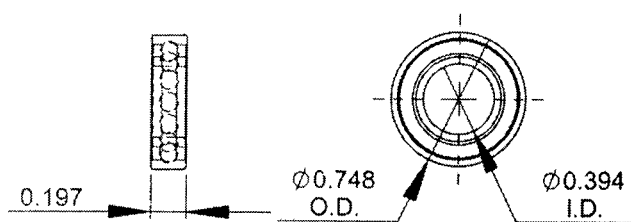
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CHECKED #	APPROVED #	DRAWING NO. <b>D3183</b>	REV. C SHEET 1 OF 4
DATE <b>04.02.17</b>		TITLE <b>BRACKET ASSEMBLY</b>	SCALE 1:1
A	03.01.24	NEW ISSUE	
B	03.06.17	REMOVE BEARING; 1.012 WS 0.882	
C	04.02.17	ADD -045/-9; 0.182 WAS 0.431	
C1	04.11.09	0.830 WAS 0.850	

RELEASED  
04.03.01  
DEO ATTACHED



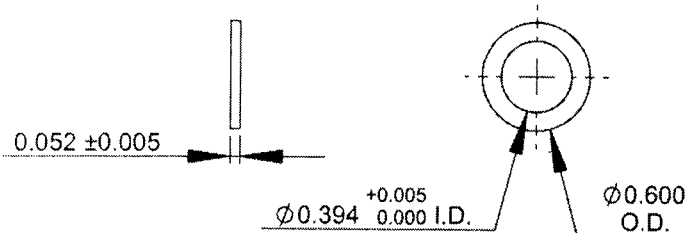
**D3183-041 BRACKET ASSEMBLY (SHOWN)**  
**D3183-042 BRACKET ASSEMBLY (OPPOSITE)**  
**D3183-043 BRACKET ASSEMBLY (SIMILAR)**  
**D3183-044 BRACKET ASSEMBLY (SIMILAR)**

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WITHOUT NOTICE  
WORK ORDER  
NO. 89977 ML5  
12-09-13



**D3183-5 BEARING:**  
**SPECIFICATION CONTROL DRAWING**

- 1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
- 2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
- 3) ALL DIMENSIONS ARE IN INCHES



**D3183-7 WASHER**

- 1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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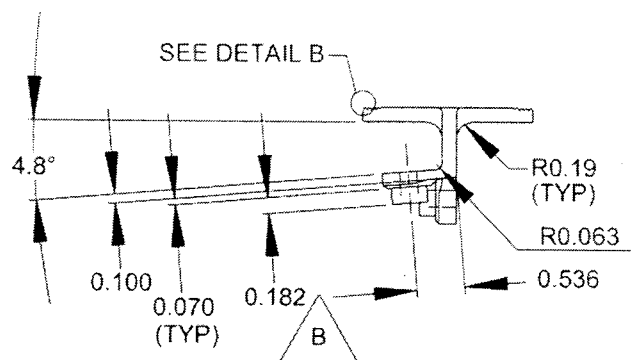
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**DART**

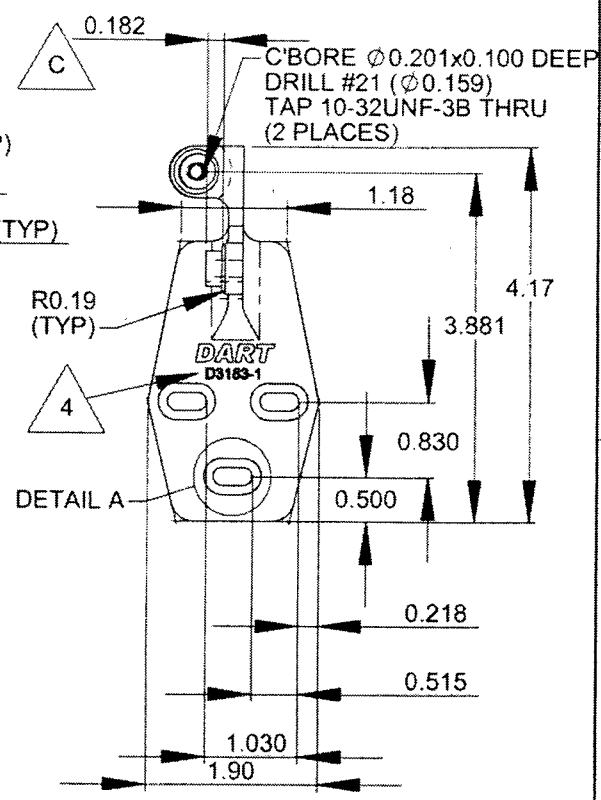
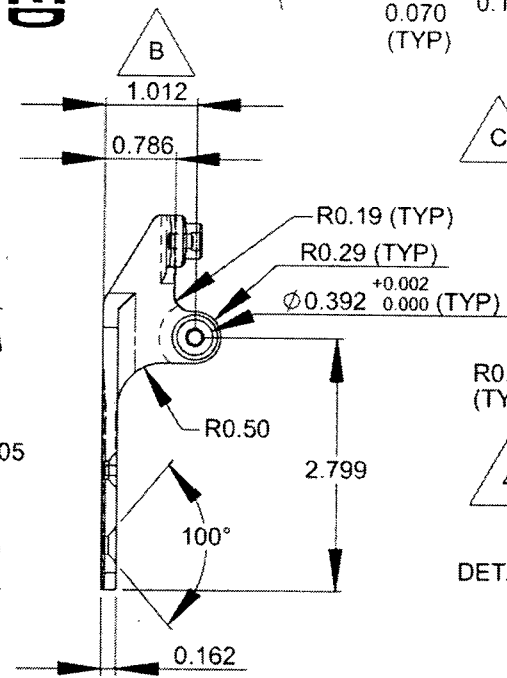
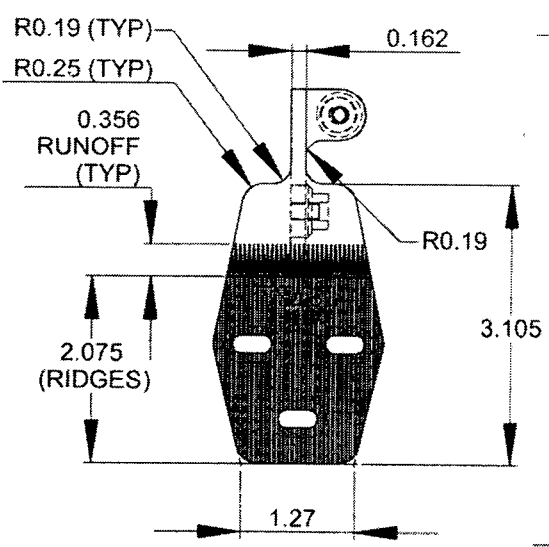
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CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. C
04.02.17	D3183	SHEET 2 OF 4
TITLE	BRACKET ASSEMBLY	SCALE
		1:2

RELEASED



**DEO ATTACHED**



- D3183-1 BRACKET SHOWN**  
**D3183-2 BRACKET OPPOSITE**
- 1) D3183-1 CAN BE MADE FROM D3183-3  
D3183-2 CAN BE MADE FROM D3183-4
  - 2) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
  - 3) BREAK ALL SHARP EDGES 0.005 TO 0.015
  - 4) ENGRAVE DART P/N & LOGO AS SHOWN
  - 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 6) ALL DIMENSIONS ARE IN INCHES

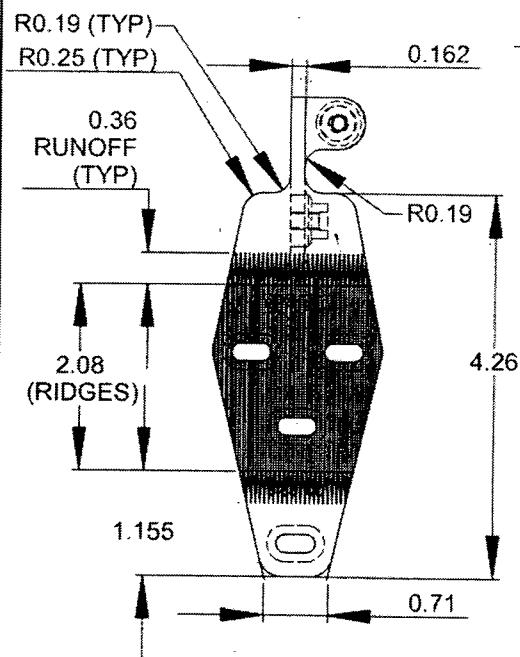
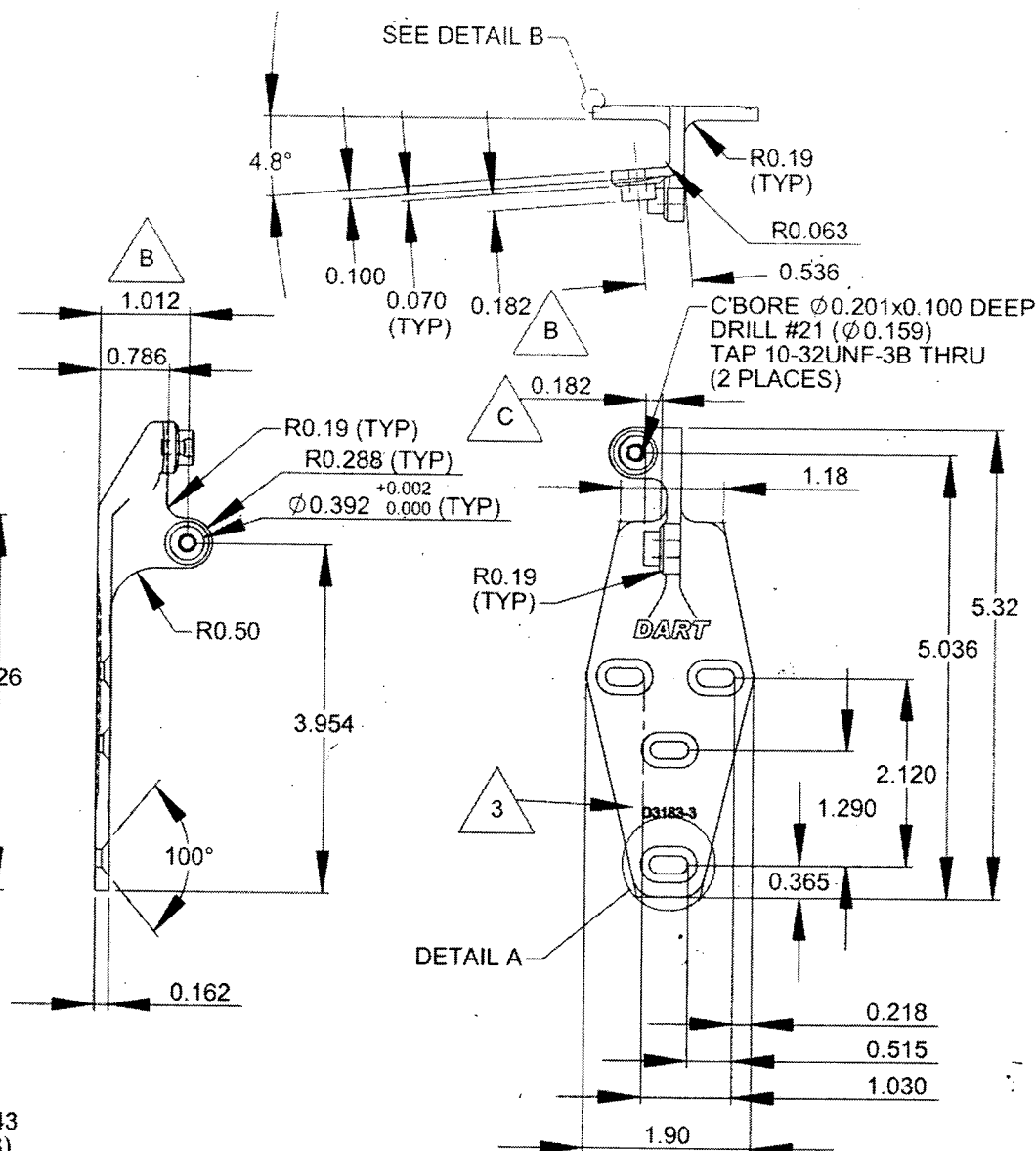
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**DART**

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE 04.02.17	DRAWING NO. D3183	REV. C
TITLE BRACKET ASSEMBLY	SHEET 3 OF 4	SCALE 1:2



**D3183-3 BRACKET SHOWN**  
(REPLACES BELL P/N 412-030-304-105)  
**D3183-4 BRACKET OPPOSITE**  
(REPLACES BELL P/N 412-030-304-106)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) ENGRAVE DART P/N & LOGO AS SHOWN
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

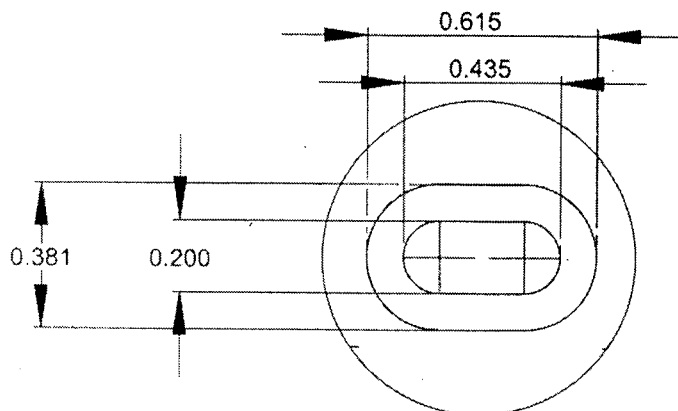
**DEO ATTACHED**

**RELEASED**

04.02.01



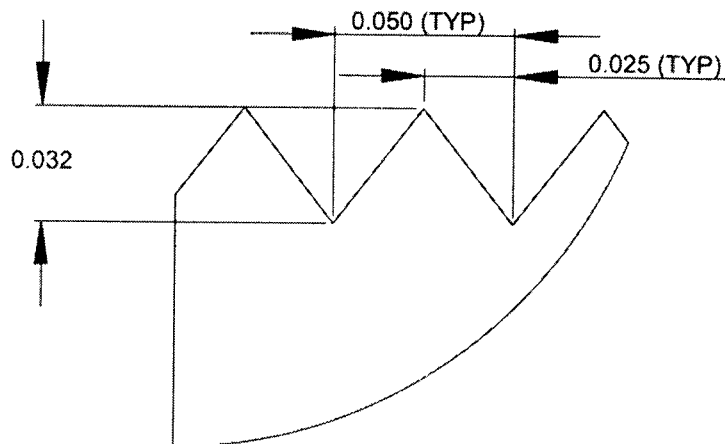
DESIGN #	DRAWN BY #	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. <b>D3183</b>	REV. C SHEET 4 OF 4
DATE <b>04.02.17</b>		TITLE <b>BRACKET ASSEMBLY</b>	SCALE 1:1



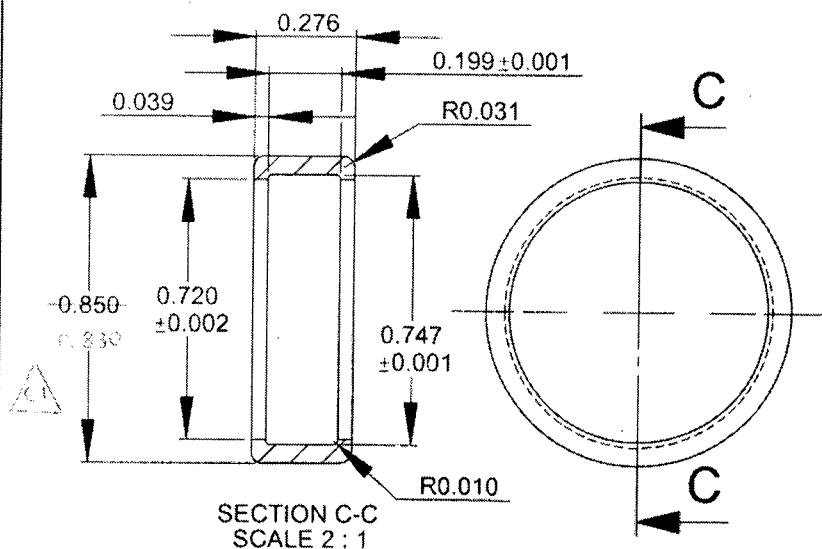
DETAIL A (2 : 1)

RELEASED  
04 03 01

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DETAIL B (20 : 1)



SECTION C-C  
SCALE 2 : 1

**D3183-9 CAP**

- 1) MATERIAL: DELRIN ROD, Ø1.00  
(REF DART SPEC. M-DELRIN-R1.00)
- 2) TOLERANCES ARE PER DART QSI 018  
UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3183-045 BEARING ASSEMBLY**

- 1) ASSEMBLE D3183-5 BEARING AND  
D3183-9 CAP

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DRAWING NO. D3183	TITLE BRACKET ASSEMBLY	REV/C1	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3183-C1-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN 9P	CHECKED J	MFG. APPR. A	APPROVED MP	DE APPR. H			
DATE 10.05.14	DATE 10.06.30	DATE 10.06.30	DATE 10/06/30	DATE 10/06/30			

D3183-5 BEARING

ADD POSSIBLE SUPPLIER: KML P/N 6800-ZZ

BASIC LOAD RATING REQUIREMENT: Cr = 1720 N (386 lb) MIN [DYNAMIC]  
Cor = 840 N (188 lb) MIN [STATIC]

REF PAR 10-012

**RELEASED**  
2010-07-22  
WD

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